

PETRUSHOVA, N.I.; GALITENKO, S.M.

Preparations for controlling the codling moth *Carpocapsa pomonella*. Trudy VIZR no.20:10-12 pt.4 '64.

(MIRA 18:12)

GALETIC, Gradimir, Engineer

The Belgrade Electronic Industry, the former Pupin Telecommunication
and Signaling Equipment Factory. Telekomunikacije 9 no.1:23-26
Ja '60. (EEAI 9:8)

(Belgrade--Industries)
(Yugoslavia--Telecommunication)

L 1355-66 EWT(1) GW

ACCESSION NR: AP5024358

UR/0286/65/000/015/0009/0009
550.83939
36
BAUTHOR: Galeta, V. O.; Zel'tzman, P. A.; Karibo, I. G.; Rogozinskiy-Teryayev, V. I.; Rudenko, N. A.; Teslenko, M. I.; Yurovitskiy, L. N.

TITLE: An inclinometer for ultra-deep wells. Class 5, No. 173154

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 15, 1965, 9

TOPIC TAGS: geologic instrument, measuring instrument

ABSTRACT: This Author's Certificate introduces: 1. An inclinometer for ultra-deep wells. The instrument consists of a strong housing with hermetically sealed electric lead-in, a small-diameter measurement system, switching mechanism and extension device. A locator is used in the measurement system to improve the accuracy, thermal stability and durability of the inclinometer. The stop point for the arresting lever is combined with the axis of rotation of the compass. The magnetic needle and slide wire are located below the axis of rotation of the compass. 2. A modification of this inclinometer in which the construction is simplified and the operational reliability is improved by using a face-type collector. 3. A modification of this inclinometer in which the collector and sensing elements are reliably

Card 1/3

L 1355-66

ACCESSION NR: AP5024358

ENCLOSURE: 01

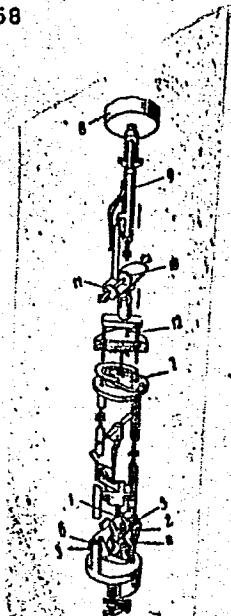


Fig. 1. 1--stop point of the arresting lever; 2--arresting lever; 3--compass; 4--magnetic needle; 5--slide wire; 6--axis of rotation of the compass; 7--face-type collector; 8--electromagnet; 9--armature of the electromagnet; 10--ratchet mechanism; 11--sequential cam system; 12--locating rods

Card 3/3

LIVSHITS, I., doktor biolog. nauki GALETKO, S., starshiy nauchnyy
sotrudnik

Leopard moth control. Zashch. rast. ot vred. i bol. 10 no.7;
18-20 '65. (MIRA 18:10)

1. Nikitskiy botanicheskiy sad, Yalta.

GALETO, A. F.

Tobacco Industry

Organization of labor in warehouse processing of makhorka. Tabak 14, No. 1, 1953.

Monthly List of Russian Accessions, Library of Congress
June 1953. UNCL.

GALETOV, I. P.

GALETOV, I. P. — "Basic Theories of Real Numbers in the Pedagogical Institute Course on Theoretica Arithmetic." Min Education Ukrainian SSR, Kiev State Pedagogical Inst imeni A.M. Gor'kiy, Kiev, 1955 (Dissertation for the Degree of Candidate in Pedagogical Sciences)
SO: Knizhnaya letopis', No. 27, 3 September 1955

GALETOV, I.P. ('Melitopol', Zaporozhskaya oblast').

Studying the irrational numbers at school. Mat. v shkole no.3:11-14
My-Je '57. (MLRA 10:6)
(Numbers, Irrational.)

GALETOV, V.

Stroitel'stvo v kolkhozakh [Construction on collective farms]. Penza, Penzenskoe obl.
izd., 1952.

SO: Monthly List of Russian Accessions, Vol. 6, No. 5, August 1953

GALETOV, V.

~~Building houses for collective farmers. Sel'. stroi. 11 [i.e. 12]
no. 2:8 1957.~~ (MIRA 10:4)

1. Glavnyy inzhener Penzenskogo oblastnogo upravleniya po stroitel'
stvu v kolkhozakh.

(Farmhouses)

KRAPIVINTSEVA, S.I.; GALETSKAYA, O.I.; ARTAMOV, V.N.; MALINSKAYA, N.N.

Functional state of the motor analyzer and of the cardiovascular system as an indication of the degree of physical training of juveniles and as a basis for setting up the pattern for the first year of industrial education. Uch.zap. Mosk. nauch.-issl. inst.san. i gig. no.2:33-36 '59. (MIRA 16:11)

1. Institut gigiyeny truda i professional'nykh zabolеваний AMN SSSR i Moskovskiy nauchno-issledovatel'skiy institut sanitarii i gigiyeny imeni F.F.Erismana.

*

KRAPIVINTSEVA, S.I.; ARTAMONOV, V.N.; GALETSKAYA, O.I.

Features of functional changes in adolescents during training at
industrial schools in the morning and evening shifts. Gig.i san.
25 no.9:110-113 S '60. (MIRA 13:9)

1. Iz Instituta gigiyeny truda i professional'nykh zabolеваний AMN
SSSR i Moskovskogo nauchno-issledovatel'skogo instituta sanitarii
i gigiyeny imeni F.F.Erismana Ministerstva zdravookhraneniya RSFSR.
(ADOLESCENTS) (SCHOOL HYGIENE)

KRAPIVINTSEVA, S.I.; GALETSKAYA, O.I.; ARTAMONOV, V.N.; MALINSKAYA, N.N.

Development of physical fitness of the adolescent organism during
the first year of industrial training. Fiziol. zhur. 46 no.11:1394-
1400 N '60. (MIRA 13;11)

1. From the Institute of Occupational Hygiene and Professional
Diseases and the Erisman Research Institute of Sanitation and
Hygiene, Moscow.
(VOCATIONAL EDUCATION) (PHYSICAL FITNESS)

VASIL'TSOV, V.D.; VOLODARSKIY, L.M.; VOLCHENKO, M.Ya.; GALETSKAYA, R.A.; IROV, N.I.; KARINYA, L.F.; KOHOVALOV, Ye.A.; MATVIYEVSKAYA, E.D.; PETRESKU, M.I.; RUDAKOV, Ye.V.; SAYFULINA, L.M.; SKVORTSOVA, A.M.; SOKOLOVA, N.M.; SOTNIKOVA, I.A.; STOLPOV, N.D.; SURKO, Yu.V.; TEN, V.A.; TRIGUBENKO, M.Ye.; FIRSOVA, Yu.V.; SHABUNINA, V.I.; YUMIN, N.N.; RYABUSHKIN, T.V., doktor ekon. nauk, otv. red.; ALAMPYEV, P.M., red.; PAK, G.V., red.; GERASIMOVA, D., tekhn. red.

[Economy of socialist countries, 1960-1962] Ekonomika stran sotsializma, 1960-1962gg. Moskva, Izd-vo "Ekonomika," 1964.
261 p. (MIRA 16:12)

1. Akademiya nauk SSSR. Institut ekonomiki mirovoy sotsialisticheskoy sistemy.

(Communist countries--Economic conditions)

L 7960-66 EWT(1)/EWA(h)

ACC NR: AP5025734

SOURCE CODE: UR/0286/65/000/018/0086/0087

37
Q3

AUTHORS: Galetskiy, F. P.; Lyubovich, L. A.

ORG: none

TITLE: Bipolar pulse shaper of tunnel diodes. Class 42, No. 174828

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 18, 1965, 86-87

TOPIC TAGS: pulse shaper, tunnel diode

ABSTRACT: This Author Certificate presents a bipolar pulse shaper of tunnel diodes. To simplify the device, one pair of like electrodes of the tunnel diodes is connected together and through an inductance coil to the voltage supply (see Fig. 1). The first electrode of the other pair is connected to the common bus. The second is connected through an inductance coil to the input divider resistor.

Card 1/2

UDC: 681.14-523.8

L 7960-66

ACC NR: AP5025734

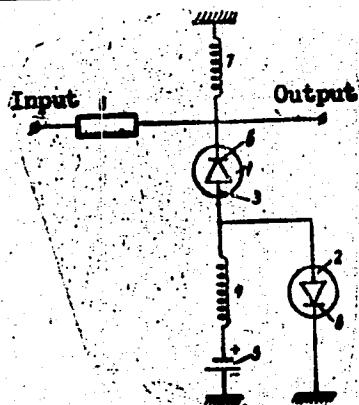


Fig. 1. 1 and 2- tunnel
diodes; 3- first pair of
like electrodes; 4- inductance;
5- power supply; 6- second
pair of like electrodes;
7- inductance; 8- input
divider resistance

Orig. art. has: 1 diagram.

SUB CODE: EC/ SUTM DATE: 24Jan64

OC
Card 2/2

GALETSKIY, F.P.; PAVLOVSKIY, Ya.N.

[Properties of storage cells on two-tunnel diodes]
Issledovanie svoistv zapominaiushchikh iacheek na dvukh
tunnel'nykh diodakh. Moskva, In-t tochnoi mekhaniki i
vychislitel'noi tekhniki AN SSSR, 1964. 84 p.
(MIRA 18:12)

GALETSKIY, F.P.; LYUBOVICH, L.A.,

[Univibrator using a tunnel diode for computer circuits]
Odnovibrator na tunnel'nom diode v skhemakh vychisli-
tel'noi tekhniki. Moskva, Akad. nauk SSSR, 1965. 67 p.
(MIRA 19:1)

L 25940-66 EWT(d)/EWP(1) IJP(c) BB/GG

ACC NR: AP6015702

SOURCE CODE: UR/0413/66/000/009/0103/0103

32
BINVENTOR: Galetskiy, F. P.; Ilyubovich, L. A.

ORG: none

TITLE: NOR logic element based on tunnel and backward diodes. Class 42, No. 181383

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 103

TOPIC TAGS: computer circuit, logic circuit

ABSTRACT: The logic NOR circuit shown in the figure consists of a memory part and an output pulse shaper. To increase the fan-out of the circuit, the memory cell is connected to the output pulse shaper through two back-to-back backward diodes, a

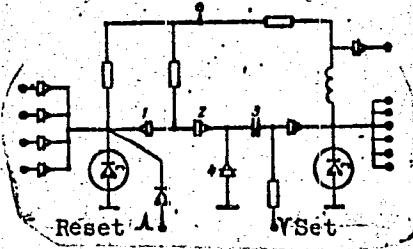


Fig. 1. Logic NOR element with memory

1 and 2 - backward diodes; 3 - capacitance; 4 - control backward diode.

Card 1/2

UDC: 681.142.07

2

L-25940-66

ACC NR: AP6015702

capacitor, and a control backward diode. The anode of the control diode is connected to the junction of the capacitor and backward diode, and the cathode is grounded as shown. Orig. art. has: 1 figure.

[BD]

SUB CODE: 09/ SUBM DATE: 20Apr65/ ATD PRESS: 4257

Card 2/2 F.W

I. 10074-67 EWT(d)/EWP(1) IJP(c) BB/GG
ACC NR: AP6029945 SOURCE CODE: UR/0413/66/000/015/0110/0111

INVENTORS: Galotokiy, F. P.; Lyubovich, L. A.

50

ORG: none

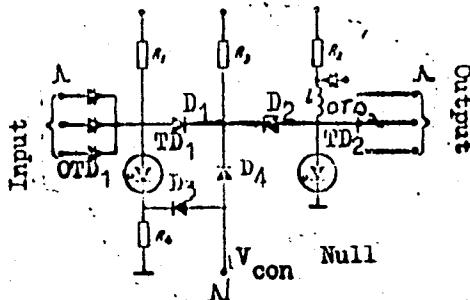
TITLE: A "not-or" logic element using tunnel diodes and a diode with an accumulated charge. Class 42, No. 184521

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 110-111

TOPIC TAGS: logic element, computer component, tunnel diode, tunnel diode storage

ABSTRACT: This Author Certificate presents a "not-or" logic element using tunnel diodes and a diode with an accumulated charge. The logic element consists of a storage cell and an output shaper (see Fig. 1).

Fig. 1. OTD₁, OTD₂ - reversed tunnel diodes; R₁, R₂, R₃, R₄ - resistors; TD₁, TD₂ - tunnel diodes; D₂ - diode with an accumulated charge; D₁, D₃, D₄ - diodes; L - inductance



UDC: 681.142.07

Card 1/2

L 10074-67

ACC NR: AP6029945

The design increases the noise-free nature of the element and simplifies its construction. The tunnel diode of the storage cell is connected with the grounded strip through a resistor. Pulses for "null" setting are fed to the resistor. Orig. art. has: 1 figure.

SUB CODE: 09/ SUBM DATE: 20Apr65

Card 2/2 6/10

GURVICH, S.I.; ZUBKOV, L.B.; GALETSKIY, L.S.

Genthelvite from silicified syenites. Dokl. AN SSSR 150
no.5:1123-1124 Je '63. (MIRA 16:8)

1. Predstavлено академиком D.I.Shcherbakovym.
(Syenite) (Genthelvite)

GURVICH, S.I.; ZUBKOV, I.B.; GALETSKIY, L.S.

Geological and mineralogical characteristics of beryllium
mineralization related to genthelvite. Sov.geol. 8 no.2329.
44 F '65. (MIR 18:12)

SAVVIN, V.N., inzh.; SEKUNDA, A.T., inzh.; KARTSEV, A.I., inzh.;
GALETSKIY N.S., inzh.

Some problems concerning the component distribution and
compensation of thermal expansion of the GTU-50-800 gas
turbine system manufactured by the Kharkov Turbine Plant.
Energomashinostroenie 8 no.11:10-13 N '62.

(Gas turbines)

(MIRA 16:1)

GALIN, Iv.

Changes in the chemical composition and smoking qualities of
tobacco damaged by mosaic and scorching. Izv Inst tiutium
BAN 1:211 '61.

GALEV, T.

Some characteristics of the agricultural production in the Belje agricultural
and industrial combine. 11.p.
(Socijalisticka zemjodelstvo, Vol. 8, No. 11, Nov. 1956, Skopje, Yugoslavia)

SO: Monthly List of East European Accessions (EEAL) Lc. Vol. 6, No. 8, Aug 1957. Umcl.

GALEVA, V., d-r, st. n. sutr.; BEKHAR, A.; DIMITROVA, Em.

Comparative examination of various methods for studying the water resistance of structural aggregates. Izv Inst "Nikola Pushkarov" no.3:79-93 '62.

1. Chlen na Redaktsionnata kolegiia, "Izvestiia na Tsentralniiia nauchnoissledovatelski institut po pochvoznanie i agrotekhnika 'Nikola Pushkarov'" (for Galeva).

GALEVA, V., d-r, st. n. sutr.

The group composition of particles < 0,00 MM in some Bulgarian soils. Izv Inst "Nikola Pushkarov" no.3:95-102 '62.

1. Chlen na Redaktsionnata kolegiia, "Izvestiia na Tsentralniiia nauchnoizsledovatelski institut po pochvoznanie i agrotekhnika 'Nikola Pushkarov'."

BOLCHEV, As., prof. d-r; GALEVA, V., d-r; PALAEV, T., d-r; RAIKOV, L.

Prof. TSvetan Staikov, Corresponding Member of the Bulgarian Academy of Agricultural Sciences, is sixty. Izv. Inst "Nikola Pushkarov" 7:5-6 '63.

1. Chlenovi na Redaktsionnata kolegia, "Izvestija na Instituta za pochvoznanie i agrotehnika 'Nikola Pushkarov'".

L 18920-63

BDS

ACCESSION NR: AP3004216

S/0018/63/000/007/0090/0092

47

AUTHOR: Galev, V. (Colonel)

TITLE: Detection zones of radar stations

SOURCE: Voyenny*y vestnik, no. 7, 1963, 90-92

TOPIC TAGS: detection zone, radar station, directivity, antenna system

ABSTRACT: To the layman seeking an understanding of the considerations relevant to the search for an airborne adversary, the author offers a brief and general explanation of the antenna systems of various types of radar stations (radar-detection stations, reconnaissance and target-indication stations, and gun-laying stations (SON)), directivity diagrams, and the basic parameters which determine the maximum range. The detection range is computed from the formula:

$$D = 4.2 (\sqrt{H_{ra}} + \sqrt{H_{ob}}),$$

Card 1/2

L 18920-63

ACCESSION NR: AP3004216

where H_{ra} is the height of the radiating radar antenna above the ground, in meters; H_{ob} is the height of the object above the ground, in meters; and D the distance of direct line-of-sight range of the radar (km) without the consideration of the effects of diffraction and refraction. Orig. art. has: 1 formula and 3 figures.

ASSOCIATION: Soviet Army

SUBMITTED: 00 DATE ACQ: 07Aug63 ENCL: 00
SUB CODE: RA, SP NO REF Sov: 000 OTHER: 000

Card 2/2

GERASIMOV, I.P., akademik, otv.red.; ANTIPOV-KARATAYEV, I.N., akademik, otv.red.; YENIKOV, K.Kh., dotsent, otv.red.; TANOV, Ye.N., starshiy nauchnyy sotrudnik, otv.red.; GALEVA, V.V., red.; TYURIN, I.V., red.; KAVUN, P.I., red.ind-va; MAKUNI, Ye.V., tekhn.red.

[Soils of Bulgaria] Pochvy Bolgarii. Moskva, 1959. 398 p.
(MIRA 12:6)

1. Akademiya nauk SSSR. Pochvennyy institut im. V.V.Dokuchayeva.
2. AN Tadzhikskoy SSR (for Antipov-Karatayev).
(Bulgaria—Soils)

28(4)

SOV/32-25-7-45/50

AUTHOR: Galevi, G. I., Chemical Engineer

TITLE: On the Supply of Laboratories With Devices, Reagents, Vessels
(O snabzhenii laboratoriya priborami, reaktivami, posudoy)
(Replies to an Article by D. M. Frayshtat, Zavodskaya labora-
toriya, Nr 2, 1959) (Otkliki na stat'yu D. M. Frayshtata,
Zavodskaya laboratoriya, No 2, 1959 g.)

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 7, p 891 (USSR)

ABSTRACT: In connection with the article mentioned in the title the author points out that poisons, acids and other materials of this kind should be transported in unbreakable vessels with special attention to shipping. Information on available reagents has to be improved and should be published regularly and not casually. There are not enough reagent stores; e.g. there is not even a main store in the district of Orenburg. The available reagent glassware is of poor quality and limited variety.

Card 1/1

GHEVSKHV/1 T. N.

Distr: 4E4/4E2c/
4E4c

Magnetite and demagnetite composite and ferronickel 7.3% Cr. Defeats and T. N. Ghevskhv/1
2/25/70, No. 2, p. 4. Samples were taken from the ore
0.0 mm. size contg. 40-7% Fe and 11.0% Fe oxide and
of ferronickel of 0.0-0.2 mm. size contg. Fe 81.1 and Si
11.0% were passed at controlled rates through magnetizing
and demagnetizing fields. Periodically samples were with-
drawn for sedimentation analyses, and the magnetite and
sands were analyzed for Fe content. Magnetite had a
relatively small coercive force. Titanomagnetite had a
smaller residual magnetism but an appreciably larger
coercivity. This difference increased as the ratio TiO_2/Fe in
the ore rose. The coercivity of magnetite increased as the
particle size decreased; at the same time the residual mag-
netism and the specific magnetic susceptibility decreased.
The latter fact is accountable for the loss of magnetite fines
in magnetic separator tailings. Ferronickel had small coer-
civity and residual magnetism. M. Hach.

M. Hach

DERKACH, V.G.; -GALEVSKAYA, T.N.

Characteristics of dry and wet separation processes for small-size strongly magnetic ore. Gor. zhur. no. 1:70-75 Ja '61.
(MIRA 14:1)

1. Mekhanobr, Leningrad.
(Magnetic separation of ores)

SOV/ILL-59-10-8/23

9 (2)

AUTHOR: Galevskiy, V.D., Chief Engineer

TITLE: An Ionic Antenna Feed-line Protection Circuit

PERIODICAL: Vestnik svyazi, 1959, Nr 10, pp 13-14 (USSR)

ABSTRACT: This article describes a circuit for protection of radio broadcasting antenna feed-lines, developed at the Kuybyshevskaya direktsiya radiosvyazi i radioveshchaniya (Kuybyshev Radio Communications and Broadcasting Board). The author first briefly outlines the usual mechanical (relay) system of antenna feed-line protection (Fig 1), which acts to shut off the transmitter in case of breakdown (arcing) in the feeder, and enumerates several disadvantages of this system. A somewhat different system, used at one of the radio centres of the Kuybyshev Radio Communications and Broadcasting, is also described (Fig 2); this system uses three EP relays instead of only one, thus the interval between arcing in the feeder and transmitter shutdown is increased (up to 40-60 milliseconds); in addition regulation of the delay between shutdown and reactivation of the transmitter, which is de-

Card 1/2

SOV/111-59-10-8/23

An Ionic Antenna Feed-line Protection Circuit

sirable, is not provided for in the latter circuit. The author then describes an improved circuit developed by the author and Vesenin and Yelin, engineers, the circuit for which is presented (Fig 3). This circuit operates within 3-5 milliseconds of arcing, and acts instantaneously on the transmitter. Regulation of the shutdown-reactivation delay interval is included. The circuit includes a VG-129 gas-filled tube rectifier (half-wave), a TG-01/1.3 thyratron, a 5Ts4S kenotron rectifier, and a 6F6 tube. Operation of the circuit is outlined with the aid of the circuit diagram. The author states that testing of the circuit and its operation have given positive results; operational stability of the transmitter has been increased. In conclusion it is noted that the described circuit is a supplement to the mechanical feed-line protection system and does not exclude the use of the latter. There are 3 circuit diagrams.

ASSOCIATION: Radiotsentr (Radio Center)
Card 2/2

GALEVSKIY, V.D.

Business accounting in a radio center. Vest. sviazi 21 no.12:
30-31 D '61. (MIRA 14:12)

1. Nachal'nik radiotsentra Kuybyshevskoy direktsii radiosvyazi i
radioveshchaniya.
(Kuybyshev--Radio stations)

GALEVSKIY, V. I.

Servicing a.c. automatic block systems. Avtom., telem. i sviaz' no.1:
31-33 Ja '57. (MLRA 10:4)

1. Machal'nik Barabinskoy distantsii signalizatsii i svyazi Omskoy
derogi.

(Railroads--Signaling--Block system)

EXCERPTA MEDICA Sec 15 Vol 12/4 Chest Diseases Apr 59

1007. MODERN VIEWS ON THE TREATMENT OF TB OF THE UROGENITAL TRACT - Współczesne poglądy na leczenie gruźlicy narządów moczowo-płciowych - Galewicz A. - PROBL. LEK. 1958, 5/1 (77-87)
Owing to the anti-tuberculous drugs it is possible to undertake radical operation even in those cases which in the past had to be classified as not fit for surgical intervention, e.g., a case of bilateral tb of the kidneys with greater changes in one of the kidneys. The general condition for conservative or conservative-surgical treatment is the previous assessment of the extent of the tuberculous process and the character of the morphological changes in the affected organ. Tb of the genitals (testicle, epididymis) is usually treated surgically or a conservative-surgical procedure is undertaken and the genital organs of the small pelvis (prostate, seminal vesicles) affected by tb are treated almost exclusively by conservative means.

Dobrowolski - Warsaw (XV, 9)

GALEWSKA, Zofia

Case of ophthalmomyiasis interna in a 5-year-old boy. Klin. oczna
24 no.1:51-56 1954.

l. Z Oddzialu Ocznego Miejskiego Szpitala Dzieciecego Nr 1 w
Warszawie. Ordynator: dr med. Z.Galewska.

(EYE, diseases,
*myiasis in child, surg.)
(MYIASIS,
*eye, surg. in child)

GALEWSKA, Z.

EXCERPTA MEDICA Sec.7 Vol.10/5 Pediatrics May56

959. GALEWSKA Z. Odd. Ocznego Miejskiego Szpit. Dziecięcego Nr. 1, Warszawa.
*Uwagi na temat patogenezy i leczenia zaćmy dziecięcej. Remarks on
the pathogenesis and treatment of cataract in children
KLIN. OCZNA 1955, 25/3 (169-184) Tables 3

The embryological, physiological and pathological data are discussed. Their influence on the development of cataract is stressed. Among others the noxious agents during foetal life are mentioned and personal cases are reported. Hormonal correlations and traumatic factors are added. The prevention, therapy and choice of operation are discussed.

Szmyt - Łódź (XII, 7)

Rew. L. K. K.

GALEWSKI, Kazimierz

Immature stages of the Central European species of Colymbetes
Clairville (Coleoptera, Dytiscidae). Annales zool 22 no.2:23-55 '64.

GALEWSKI, M.

Scientific conference concerning the drying of lumber by the distillation method.
p. 17.
PRZEWYSL DRUGIY, Warszawa, Vol. 6, no. 7, July 1955.

SO: Monthly List of East European Accessions, (SEAL), LG, Vol. 4, no. 10, Oct. 1955,
Uncl.

GALEY, M. T.

PA 2/49T57

USSR/Medicine - Instruments
Medicine - Equipment

Jan 48

"Assistance to the Institute by the Industry,"
M. T. Galey, All-Union Sci Res Inst. for Med Instr
and Equipment, 5 pp

"Med Prom SSSR" No 1

Briefs some of the equipment and apparatus developed
and released by the All-Union Sci Res Inst for Med
Instr and Equipment.

2/49T57

GALEY, M.T.

SAVIN, V.N., inzhener; GALEY, M.T., kandidat tekhnicheskikh nauk, retsenzent;
MALOV, A.N., kandidat tekhnicheskikh nauk, redaktor; MODEL', B.I.,
tekhnicheskiy redaktor

[Hard alloy tools in instrument making; experience of the 2nd Moscow
Clock Factory] Tverdosplavnyi instrument v priborostroenii; iz opyta
2-go moskovskogo chasovogo zavoda. Moskva, Gos. nauchno-tekhn. izd-vo
mashinostroit. lit-ry, 1954. 117 p.
(Metal-cutting tools) (Dies (Metal working)) (MIRA 8:4)

6/25/1987

GALEY, M.T., kand.tekhn.neuk

Unfounded comments. Priborostroenie no.10:15 0 '57. (MIRA 10:11)
(Instrument industry) (Automatic control)

GAVRILOV, Anatoliy Nikolayevich; MUYR, Valentin Nikolayevich; POLYAKOV,
N.I., prof., retsenzent; GALIN, M.T., kand. tekhn. nauk, retsenzent;
AVHUTIN, S.V., dots., red.; SALYANSKIY, A., red. izd-va; UVAROVA,
A.F., tekhn. red.

[Resources and methods for increasing labor productivity in the
manufacture of instruments] Rezervy i puti povyshenija proizvodi-
tel'nosti truda v priborostroenii. Moskva, Gos. nauchno-tekhn.
izd-vo mashinostroit. lit-ry, 1958. 642 p. (MIRA 11:10)
(Instruments)

TAMBOVTSEV, Sergey Pavlovich, kand.tekhn.nauk [deceased]; GALEY, M.T.,
kand.tekhn.nauk, red.; SMIRNOVA, G.V., tekhn.red.

[Developments in metal-cutting tools] Novosti instrumental'noi
tekhniki. Pod red. M.T.Galeia. Moskva, Gos.nauchno-tekhn.
izd-vo mashinostroit.lit-ry, 1959. 78 p. (MIRE 12:4)
(Metal-cutting tools)

YEREMEYEVA, Natal'ya Mikhaylovna; GALEY, M.T., kand.tekhn.nauk, red.;
IVANOVA, N.A., red.izd-va; SMIRNOVA, G.V., tekhn.red.

[Drills] Sverla. Pod red. M.T.Galeia. Moskva, Gos.snauchno-
tekhn.izd-vo mashinostroit.lit-ry, 1959. 103 p. (MIRA 12:10)
(Twist drills)

GALEY, Mikhail Trofimovich, kand.tekhn.nauk; CHETVERIKOV, S.S., prof.,
retsenzent; BELOSTOISKIY, L.Ya., inzh., red.; BALANDIN, A.P.,
red.izd-va; SOKOLOVA, T.F., tekhn.red.; SOROKINA, G.Ye.,
tekhn.red.

[Counterbores] Zenkery. Moskva, Gos.nauchno-tekhn.izd-vo
mashinostroit.lit-ry, 1960. 86 p. (MIRA 13:12)
(Metal-cutting tools)

GARASHCHENKO, Alekandr Petrovich, kand.tekhn.nauk; IVANOV, A.G., kand.
tekhn.nauk, retsenzent; GALEY, M.T., kand.tekhn.nauk, red.;
LESNICHENKO, I.I., red.izd-va; SOROKINA, G.Ye., tekhn.red.

[Materials for metal-cutting tools] Instrumental'nye materialy.
Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960.
123 p. (MIRA 13:5)

(Metal-cutting tools)

GALIN, Mikhail Trofimovich; MOROZOVA, N.N., red.izd-va; TIKHANOV,
A.Ya., tekhn.red.

[Reamers] Razvertki. Moskva, Gos.nauchno-tekhn.izd-vo
mashinostroit.lit-ry, 1960. 94 p. (MIRA 14:3)
(Reamers)

GALEY, M. T.

Efficient geometry of drills used in instrument manufacture.
Priborostroenie no.10:15-18 O '62. (MIRA 15:10)

(Twist drills)

GALEY, M.T.; PESHKOV, Ye.O.

Effect of drill geometry and cutting conditions on the precision of drilling holes. Priborostroenie no.2:6-8 F '64.
(MIRA 17:3)

L 06336-67 EWP(k)/EWT(m)/EWP(w)/EWP(t)/ETI IJP(c) DJ/JD
ACC NR: AR6013842 (A, N) SOURCE CODE: UR/0276/65/000/011/B102/B102

AUTHOR: Galey, M. T.

42
38
B

TITLE: Investigation of cutting tool materials and geometry based on thermo-electric phenomena in cutting and in friction //

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya, Abs. 11B704

REF SOURCE: Sb. Osnovn. napravleniya i perspektivy razvitiya tekhnol. priborostro. M., 1964, 421-441

TOPIC TAGS: metal cutting, metal friction, metal machining, steel alloy / R9 steel alloy, M2 steel alloy, R18 steel alloy

ABSTRACT: As a result of experiments it was established that, with increasing friction speed or friction energy, the friction couple temperature increases, resulting in an increased wear of the tool material which is almost proportional to the increased friction speed, average temperature, and thermoelectric emf. The absolute and relative wear are different for different steels. The wear decreases sharply with decreasing hardness of the friction materials. Decreasing the hardness of an R9 steel specimen by 20% as compared with the hardness of an

Card 1/2

UDC: 621.9.013.001.5

L 06336-67

ACC/NR: AR6013842

M2 steel specimen increases the relative wear intensity by a factor of 12. To obtain a deeper understanding of the physical phenomena which accompany friction wear, experiments were performed to measure the thermoelectric emf and temperature occurring in the machine-machined part-cutting tool system. It was established that the pressure during, for example, drilling is different for different feed rates at the same speeds, so that the coefficients of thermoelectric emf were also different. During a feed rate increase in drilling from 0.15--68 mm/rev the sum of the electrical conductivity coefficients of the contacting 5140 and R18 steels increased. During a speed increase of 6.7--16.4 m/min at the same feed rates the sum of these coefficients first increases and then decreases. Experiments on the effects of electric current on tool wear were performed on a special apparatus and showed that the application of a negative current and reversed electron direction in the open circuit decreased specimen wear by a factor of 2. 11 illustrations. Bibliography of 9 titles. L. Tikhonova [Translation of abstract]

SUB CODE: 13

Card 2/2 mLE

GALEYEV, A.; YEFIMOV, G., rabkor; SERDYUKOV, N., inzh.; LOBZA, L.
UL'KIN, P., uchitel' (Novozybkovskiy rayon Bryanskoy obl.);
PETROV, V., uchitel' (Novozybkovskiy rayon Bryanskoy obl.)
DEGTYAREV, N.

Letters to the editors. Sov. profsoiuzy 17 no. 2:46-49
Ja '61. (MIRA 14:2)

1. Predsedatel' promyslovogo komiteta profsoyuza, g. Oktjabr'skiy (for Galeev).
2. Gomel' hayr remontno-ekspluatasionnaya baza rechnogo flota (for Serdyukov).
3. Chlen rabsel'korovskogo soveta gazety "Vpered" Razdel'-nyanskogo rayona Odesskoy oblasti (for Degtyarev).
(Trade unions)

DMITRIYEVSKIY, S. (Leningrad); YEZHOOVA, D. (Leningrad); ARSHAVSKIY, M.,
sovetsnik yustitsii (Tyumen'); GALEYEV, A.

Editor's mail. Sov. torg. 36 no.3:42-43 Mr '63. (MIRA 16:3)

1. Nachal'nik Zheleznodorozhnogo upravleniya rabochego snabzheniya
Yuzhno-Ural'skoy zheleznoy dorogi, Chelyabinsk.
(Retail trade) (Railroads--Dining-car service)

GAL'EYEV, A. A. Universal Instability of a Magnetically Confined Plasma

A. A. Gal'ev, V. N. Orlovskii, and R. Z. Sagdeev
Institute of Nuclear Physics, 1962

Abstract

It is shown that a low pressure plasma ($p \ll H^2/8\pi$), confined by a magnetic field, is "universally" unstable with respect to local short-wave perturbations which do not distort the magnetic field, for any ratio between the spatial temperature and density gradients $d\ln T/d\ln n$. An analog of a similar "universal" instability in the hydrodynamic approximation is the instability related to finite thermal conductivity along the magnetic field.

Report presented at the Conference on Plasma Stability, Culham, UK, 17-22 Sep 62.

42541

S/020/62/147/001/010/022
B104/B102

24.2120

AUTHORS: Galeyev, A. A., Orayevskiy, V. N.

TITLE: The instabilities of Alfvén waves

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 1, 1962, 71 - 73

TEXT: Though the Alfvén waves are exact, solutions of the nonlinear magnetohydrodynamic equations, they are unstable against a certain type of perturbations. It is shown that these perturbations consist of Alfvén plus magnetosonic waves. Magnetohydrodynamic plasma waves are considered in a co-moving coordinate system, \vec{v} , \vec{B} , n , and p being the perturbations of the velocity, of the magnetic field, of density and pressure whose the time dependence can be represented in the form $\exp(-i\omega t)$. The Alfvén waves can be studied by a system of equations $(\hat{\mathcal{L}}_0 + \hat{\mathcal{L}}_1)\phi = \Omega\phi$. Here $\hat{\mathcal{L}}_0$ is a linear self-adjoint differential operator describing the oscillations of a homogeneous plasma with the eigenfunctions ϕ_Ω . The spatial dependence of the eigenfunctions is determined by a factor $\exp(i\vec{k}\vec{r})$ and a real eigenvalue $\Omega^{(0)}$ satisfying the dispersion formula $\Omega^{(0)} = \Omega^{(0)}(\vec{k})$. $\hat{\mathcal{L}}_1$ is a linear

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S/020/62/147/001/010/022
B104/B102

The instabilities of Alfvén waves

differential operator with periodic coefficients where $\hat{k} \rightarrow 0$ with \vec{H} and \vec{V} tend to zero. \vec{V} is the hydrodynamic velocity. The stability of waves with small amplitude can, therefore, be studied by applying the perturbation theory with $\alpha = V/u$ as the small parameter. In this case the correction $\omega^{(1)}$ to $\Omega^{(0)}$ has to be found. $\omega^{(1)}$ is non-zero only if at least two wave vectors which have different amounts and for which $\vec{k}_1 = \vec{k}_0 + \vec{k}_2$ correspond to $\Omega^{(0)}$. Analogously $\omega_1^{(0)} = \omega_0 + \omega_2^{(0)}$ holds in the laboratory system where ω_0 is the background frequency. Hence, in first perturbation-theoretical approximation, instabilities of the Alfvén waves can occur only for deviations able to be written as the sum of two waves. Thus, for the perturbations

$$\begin{aligned} 2 \left(-\omega_{1,2} v_{1,2} - \frac{1}{4\pi n_0 M} [[k_{1,2} h_{1,2}] H_0] + v_s^2 \frac{n_{1,2}}{n_0} k_{1,2} \right) &= \quad (5) \\ = -(\nabla k_{2,1}) v_{2,1} \mp (v_{2,1} k_0) \nabla + \frac{1}{4\pi n_0 M} \{ [[k_{2,1} h_{2,1}] H] \pm \right. \\ \left. \pm [[k_0 H] h_{2,1}] \mp [[k_0 H] H_0] \frac{n_{2,1}}{n_0} \}, \end{aligned}$$

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The instabilities of Alfvén waves

S/020/62/147/001/010/022
B104/B102

$$\begin{aligned} -\omega_{1,2}h_{1,2} - [k_{1,2}\{v_{1,2}H_0\}] &= \frac{1}{2}[k_{1,2}\{\{Vh_{2,1}\} + \{v_{2,1}H\}\}], \\ -\omega_{1,2}n_{1,2} + n_0(k_{1,2}v_{1,2}) + \frac{1}{2}n_{2,1}(k_{1,2}V) &= 0, \\ v_s^2 = \gamma \frac{P_0}{Mn_0}, \end{aligned}$$

is obtained. Here $\vec{h}_{1,2}$, $\vec{v}_{1,2}$, $n_{1,2}$ are the amplitudes of waves with the frequencies $\omega_1 = \omega_1^{(0)} + \omega^{(1)}$, $\omega_2 = \omega_2^{(0)} + \omega^{(1)}$. The stability of Alfvén waves to various forms of perturbations can be studied with the aid of (5). If the perturbation consists of an Alfvén wave and a magnetosonic wave then

$$\omega^{(1)2} = \frac{k_{2y}^2 V^2}{16 \left[1 + \left(\frac{k_{2x} k_{2y} v_s^2}{\omega_2^2 - k_{2x}^2 v_s^2} \right)^2 \right]} \left\{ \frac{\omega_2^2 \cos \delta}{\omega_2^2 - k_{2x}^2 v_s^2} - 4 \sin \gamma \sin (\gamma + \delta) \right\}^2 \frac{\omega_1}{\omega_2}, \quad (6)$$

where δ is the angle between the planes (\vec{k}_0, \vec{H}_0) and (\vec{k}_1, \vec{H}_0) and γ that between (\vec{k}_1, \vec{H}_0) and (\vec{k}_2, \vec{H}_0) . It follows that Alfvén waves are unstable for

The instabilities of Alfvén waves

S/020/62/147/001/010/C22
B104/B102

any propagation angle with respect to the magnetic field. During the period $1/v$ where $v \approx v\omega_0/(8uv_2)^{1/2}$, the Alfvén waves go over into random oscillation of the medium. This refutes the assumption that the Alfvén waves are long lived, on which certain astrophysical and geophysical hypotheses are based. There is 1 figure.

ASSOCIATION: Novosibirskiy gosudarstvennyy universitet (Novosibirsk State University)

PRESENTED: June 7, 1962, by M. A. Leontovich, Academician

SUBMITTED: May 29, 1962

Card 4/4

GALEYEV, A.A.; MOISEYEV, S.S.; SAGDEYEV, R.Z.

Theory of the stability of an inhomogeneous plasma and anomalous diffusion. Atom. energ. 15 no.6:451~467 D '63. (MIRA 17:1)

GALEYEV, A.A.; KARPMAN, V.I.

Turbulent theory of a weakly nonequilibrium rarefied plasma
and the structure of shock waves. Zhur. eksp. i teor. fiz.
44 no.2:592-602 F '63. (MIRA 16:7)

1. Novosibirskiy gosudarstvennyy universitet.

GALEYEV, A.A.

AID Nr. 980-8 31 May

UNIVERSAL INSTABILITY OF INHOMOGENEOUS PLASMA (USSR)

Galeev, A. A., V. N. Orayevskiy, and R. Z. Sagdeev. Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 3, Mar 1963, 903-911.

S/056/63/044/003/022/053

It is proved analytically that short-wave perturbations in a low-pressure, low-density plasma contained in a magnetic field can cause a local instability which is independent of the configuration of the containing field and is, therefore, called a universal instability. Plasma in such a state of rarefaction cannot be examined by means of the magnetohydrodynamic model; instead, it must be considered within the framework of the kinetic theory based on the Boltzmann equation. However, since the kinetic theory is difficult to use in an instability analysis, two limiting cases are considered: a) the plasma is rarefied enough for the magnetohydrodynamic treatment to be invalid, and yet the mean free path is short enough for the plasma to be regarded as two interpenetrating fluids; and b) plasma density is low enough to permit the neglect of collision effects and the use of kinetic equations without the collision integral. Since the universal instability of rarefied plasma is based on short-wave perturbations, it is expected to lead to a slow turbulent diffusion rather than to the rapid escape of macroscopic plasma bunches from magnetic confinement. [VG]

Card 1/1

L 13638-63 EWT(1)/ENG(k)/BDS/EEC(b)-2/ES(t)-2/ES(w)-2 ASD/AFFTC/
ESD-3/AFWL/SSD Pz-4/Pi-4/Po-4/Pab-4 AT/LJD(C)
ACCESSION NR: AP3003122 S/0056/63/044/006/1920/1934

83
82

AUTHOR: Galeev, A. A.

TITLE: Theory of stability in a nonhomogeneous rarefied plasma in a strong magnetic field

SOURCE: Zhurnal eksper. i teor. fiziki, v. 44, no. 6, 1963, 1920-1934

TOPIC TAGS: stability of nonhomogeneous plasma, drift approximation, shearing of magnetic lines, universal instability

ABSTRACT: A method for constructing finite solutions corresponding to localized perturbations is used to derive the fundamental equations for the stability of an inhomogeneous plasma in the drift approximation. It is shown that a correspondence exists between the results obtained and those of the approximate quasiclassical theory of the same problem. The shearing effect of nonparallel magnetic force lines is taken into account. It is shown that shear effects lead to the stabilization of the so-called universal instability of a low-pressure inhomogeneous plasma when particle collisions are neglected. "In conclusion the author thanks Academician M. A. Leontovich for his interest in the work and for a discussion at the seminar, which stimulated the writing of this paper, and R. Z. Sagdeev for his continuous interest and valuable comments." Orig. art. has: 4 figures and

Card 1/21

Accession: Novosibirsk J. Un. H.A. Formul/GS

L 10605-63 EWT(1)/EWG(k)/BDS/EEC(b)-2/ES(w)-2 AFFTC/ASD/ESD-3/AFWL/SSD
Pz-4/Pab-4/Pi-4/Po-4 AT/IJP(C)
ACCESSION NR: AP3000739 S/0020/63/150/003/0503/0506

80

AUTHOR: Galeev, A. A.

TITLE: An asymptotic method in the theory of plasma stability.

SOURCE: AN SSSR. Doklady, v. 150, no. 3. 1963, 503-506

TOPIC TAGS: plasma stability, nonuniform rarified plasma

ABSTRACT: A mathematical treatment of the stability of a nonuniform rarified plasma in a strong magnetic field is presented. The stabilizing effect of non-parallel magnetic lines of force is discussed. "The author expresses his sincere gratitude to R. Z. Sagdeyev for his constant interest in the work and helpful suggestions." Orig. art. has: 1 figure and 11 equations.

ASSOCIATION: Novosibirskiy gosudarstvennyy universitet (Novosibirsk State University)

SUBMITTED: 10Dec62

DATE ACQD: 21Jun63

ENCL: 00

SUB CODE: 00

NO REF Sov: 004

OTHER: 001

Card 1/17/44

L 18489-63

EWT(1)/EWG(k)/BDS/ES(w)-2 AFFTC/ASD/ESD-3/APWL/SSD/

IJP(C) Pz-4/Pi-4/Po-4/Pab-4 AT

S/0056/63/045/003/0647/0655

ACCESSION NR: AP3007087

AUTHOR: Galeev, A. A.; Pudakov, L. I.

70
68

TITLE: Nonlinear theory of drift instability of inhomogeneous plasma in a magnetic field

SOURCE: Zh. eksper. i teoret. fiziki, v. 45, no. 3, 1963, 647-655

TOPIC TAGS: plasma drift instability, turbulent diffusion coefficient, plasma escape, plasma instability, turbulent plasma, inhomogeneous plasma, magnetic field confined plasma

ABSTRACT: A weakly turbulent plasma, with turbulence due to the essential instability of inhomogeneous plasma, has been investigated. In an unstable plasma the level of electric-field fluctuations can exceed the thermal background, thus causing an increase in plasma flow across the confining magnetic field. The boundary instability of plasma confined by a magnetic field rapidly damps out, if collisions between particles can be neglected. Otherwise, a tendency toward an unstable Maxwell distribution of velocities

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L 18489-63
ACCESSION NR: AP3007087

2

arises. The qualitative evaluation of this phenomenon was based on the instability increment obtained from the linear theory of the Maxwell distribution function for electrons. A stationary spectrum of oscillations was calculated from the kinetic equation for waves. By means of this spectrum the turbulent flow of plasma across the confining magnetic field was evaluated. Although the computed turbulent diffusion coefficient was found to be greater than the classical value for this coefficient, it is nevertheless small in comparison with the Bohm coefficient. "In conclusion the authors express their sincere gratitude to R. Z. Sagdeev for fruitful discussion and remarks." Orig. art. has: 27 formulas.

ASSOCIATION: Novosibirskiy gosudarstvennyy universitet
(Novosibirsk State University)

SUBMITTED: 28Feb63 DATE ACQ: 08Oct63 ENCL: 00

SUB CODE: PH NO REF Sov: 005 OTHER: 002

Card 2/2

GALEEV, A. A.; ORAYEVSKY, V. N. (Novosibirsk)

"Instability of Alfvén waves of arbitrary amplitude"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 1964.

ACCESSION NR: AP4031155

S/0056/64/046/004/1335/1343

AUTHOR: Galeev, A. A.

TITLE: Transition radiation from a uniformly moving charge crossing
a diffuse boundary between two media

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1335-1343

TOPIC TAGS: moving charge, transition radiation, Cerenkov radiation,
high frequency spectrum, dielectric property

ABSTRACT: Since the diffuseness of the boundary between the media
must be taken into account when evaluating the short-wave part of
the spectrum of transition radiation, the authors treat this spec-
trum in the quasiclassical approximation for the case when the char-
acteristic length a (in which a considerable change in the dielectric
properties of the medium occur) is much larger than the wavelength.
By setting up the fundamental Maxwell equations with the Lorentz

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ACCESSION NR: AP4031155

supplementary conditions and by solving these equations it is shown that at high frequencies the transition radiation is exponentially small, in analogy with the phenomenon of "above the barrier" reflection in quantum mechanics. In the limit, the transition radiation decreases exponentially with increasing electromagnetic wavelength, and the problem reduces to separating this exponentially small effect in analogy with the separation of similar effects in the theory of above the barrier reflection in quantum mechanics and in problems with "nonconservation" of adiabatic invariance. Three typical cases are considered. (a) The dielectric constant changes very little in magnitude, (b) the singularity nearest to the real axis is a branch point of the dielectric constant as a function of the dimension and the frequency, and (c) the singularity near the real axis is a branch point of the dielectric constant. The three particular cases considered pertain to the dielectric constant operator function having a zero, a pole, and a branch point singularity. "The author is grateful to R. Z. Sagdeev who called his attention to this question, to

Card 2/3

ACCESSION NR: AP4031155

B. L. Pokrovskiy and A. M. Fridman for a useful discussion." Orig.
art. has: 28 formulas and 2 figures.

ASSOCIATION: Novosibirskiy Gosudarstvennyy universitet (Novosibirsk
State University)

SUBMITTED: 17Sep63 DATE ACQ: 07May64 ENCL: 00

SUB CODE: NP NR REF. SOV: 007 OTHER: 001

Card 3/3

ACCESSION NR: AP4016503

S/0020/64/154/005/1069/1071

AUTHOR: Galeev, A. A.; Orayevskiy, V. N.

TITLE: On the instability of magneto-hydrodynamic waves of large amplitude

SOURCE: AN SSSR. Doklady*, v. 154, no. 5, 1964, 1069-1071

TOPIC TAGS: alfen wave, small amplitude, unstable magneto acoustical wave, large amplitude, mathematical computation, slow wave, fast wave

ABSTRACT: It was previously reported (A. A. Galeev, V. N. Orayevskiy, DAN, 147, 71 (1962)) that an alfen wave of finite, but small amplitude is unstable in a compressible medium. The reason for the instability is attributed to the presence of a positive return linking between small disturbances of alfen and magneto-acoustical type waves. It is expected that the mechanism mentioned above must also lead to instability in the case of waves of large amplitudes. However, natural mathematical difficulties do not allow a solution for an arbitrary

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ACCESSION NR: AP4016503

profile of the issuing alfen wave. Therefore, the stability of alfen waves with a see-saw profile of magnetic field lines is investigated. It was found that the stability problem reduces to finding the frequencies of proper oscillations of the medium in the periodic field of the issuing alfen wave. A mathematical solution is presented. It is concluded that the instability is similar to the instability of alfen waves of small amplitudes relative to a simultaneous disturbance of slow and fast magneto-acoustic waves. "The authors express their gratitude to academician I. A. Leontovich for a discussion of the results and to R. Z. Sagdeyfu, whose advice and interest in this work stimulated its execution." Orig. art. has: 7 equations and 1 figure.

ASSOCIATION: Novosibirskiy gosudarstvenny universitet (State University of Novosibirsk)

SUBMITTED: 21Oct63

DATE ACQ: 12Mar64

ENCL: 00

SUB CODE: PH, GE, MM

NO REF Sov: 002

OTHER: 000

Card 2/2

ACCESSION NR: AP4043833

S/0020/64/157/005/1088/1091

AUTHORS: Galeev, A. A.; Karpman, V. I.; Sagdeyev, R. Z.

TITLE: Concerning one solvable problem in the theory of plasma turbulence

SOURCE: AN SSSR. Doklady*, v. 157, no. 5, 1964, 1088-1091

TOPIC TAGS: turbulent plasma, kinetic equation, spectral energy distribution, electron ion plasma, plasma oscillation, electron oscillation, ion oscillation

ABSTRACT: The authors investigate several particular classes of problems involving the spectrum of the turbulent pulsations in a plasma. In view of the nonlinearity of the integral kinetic equation for the wave spectral energy density, all the attempts made heretofore consisted only of crude estimates. It is shown that the problem of nonlinear time evolution of a spectrum of Langmuir electron oscillations

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ACCESSION NR: AP4043833

tions in a homogeneous plasma without a magnetic field can be solved analytically. The initial integral equations are derived by a perturbation-theory method described by A. A. Vedenov et al. (Yaderny sintez, v. 1, 82, 1961) and by W. Drummond and D. Pines (paper no. 134, Salzburg Conference, September 1961). The result is a complete system of equations describing the turbulent kinetics of a rarefied plasma without a magnetic field, accurate to terms quadratic in the energy. The nonlinear relaxation of the electron plasma oscillations is then described, and it is shown that the principal role in the nonlinear relaxation of the electronic oscillations is played by the ions. Orig. art. has: 13 formulas. This report presented by M. A. Leontovich.

ASSOCIATION: Novosibirskiy gosudarstvenny universitet (Novosibirsk State University)

SUBMITTED: 20Feb64

ENCL: 00

SUB CODE: ME

NR REF SOV: 010

OTHER: 001

Card 2/2

L 07133-67 EWT(1)/EWP(m) WW
ACC NR: AP7001045

SOURCE CODE: UR/0207/65/000/003/0039/0042

41
B

GALEYEV, A. A. (Novosibirsk)

"Some Limitations on the Amount of Energy and the Spectrum of Turbulent Motion of a Liquid Under Conditions of Developed Turbulence"

Novosibirsk, Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No. 3, May-June 1965, pp 39-42

Abstract: This article is a discussion and mathematical presentation of the spectrum of turbulent motion and limitations on the amount of energy for the purpose of simplification of the problem of evaluating the role of turbulent transfer processes in the evolution of the unstable state of a liquid. The conditions selected for imposing these limitations are those of stability of the steady state turbulent state of a liquid. The Landau assumptions - that the motion of a liquid under these conditions is quasi-périodique motion which may be described by the sum of periodic functions with various periods - are used. Of the two limiting cases in which the behavior of small disturbances in time may be simply described in general form, only the case in which the

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L 07133-67

ACC NR: AF7001045

damping decrement is significantly greater than the characteristic frequencies of the turbulent motions is considered. A Fourier transformation is used to convert the equations of turbulent motion to a system of linear differential equations after assuming the turbulence is homogeneous. The Routh-Hurwitz conditions are then imposed on the coefficients of the equations. Some inadequacies of the method are pointed out. An illustration of the method is offered in the investigation of turbulent convection of an incompressible liquid in the field of gravity. In the illustration the system is described by continuity, motion, and thermal balance equations. Orig. art. has: 22 formulas. [JPRS]

ORG: none

TOPIC TAGS: incompressible fluid, turbulent flow

SUB CODE: 20 / SUBM DATE: 05Sep64 / ORIG REF: 006 / OTH REF: 002

Card 2/2 LC

L 1443-66 EWT(1)/ETC/EPI(n)-2/EWA(w)-2/ENG(m) IJP(c) AT
ACCESSION NR: AP5021133

UR/0056/65/049/002/0672/0681

SB
SP

AUTHOR: Galeev, A. A. 44,55

TITLE: Ion escape from a magnetic mirror trap due to the development of instability connected with the "loss cone"

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 2, 1965, 672-681

TOPIC TAGS: plasma stability, plasma containment, magnetic mirror, magnetic trap, plasma diffusion

ABSTRACT: The author determines the oscillation spectrum in an unstable plasma, and estimates the diffusion of ions in a "loss cone," whereby the ions escape from a plasma trap through the magnetic mirrors. The turbulent transport of the ions is estimated for the case of weak microinstability, when the turbulent state of the plasma can be represented by a set of weakly-interacting oscillations. The escape of the ions into the loss cone is described in terms of the nonlinear diffusion of the ions in velocity space under the influence of these oscillations. The spectrum of the turbulence is determined and the coefficient of turbulent diffusion of the ions in velocity space is obtained from this spectrum. It is shown that under certain conditions the instability can be considerably reduced by rapidly filling this

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L 1443-66

ACCESSION NR: AP5021133

loss cone. The dependence of the ion lifetime on the length of the trap is investigated and it is shown that in the case of sufficiently long traps the plasma lifetime is approximately equal to the travel time of the ions between mirrors. "I thank B. B. Dadomtsev and R. Z. Sagdejev for numerous valuable suggestions and remarks." Orig. art. has 2 figures and 26 formulas.

(6)

[02]

ASSOCIATION: none 44,55

SUBMITTED: 13Mar65

ENCL: 00

SUB CONE: ME, EM

NO REF Sov#: 007

OTHER: 004

ATD PRESS: 4/68

Card 2/2

L 65059-55	EWT(1)/EWP(m)/EFT(m)/EPA(ep)-2/EPI(n)-2/ENG(v)/EWG(m)/EPA(w)-2/T-2/ EWA(m)-2 IJP/C AT	UR/0020/65/161/004/0802/0805	25
ACCESSION NR: AP5010826			56
AUTHOR: Galeev, A. A.	1945	8	1945
TITLE: On the statistical theory of particle acceleration by magnetohydrodynamic waves in a weakly turbulent rarefied plasma		21,74,65	
SOURCE: AN SSSR. Doklady, v. 161, no. 4, 1965, 802-805			
TOPIC TAGS: plasma physics, magnetohydrodynamics, MHD accelerator, particle acce- leration, turbulent plasma, rarefied plasma			
ABSTRACT: A statistical mechanism of particle acceleration was first proposed by Fermi to explain the origin of cosmic rays. He examined the acceleration of charged particles in a medium consisting of a number of chaotically moving magnetic clouds. This model is convenient in the sense that the interaction of the particles with the magnetic clouds may be looked at as ordinary "collisions" between large and small particles. Calculation of the energy balance in a system of these particles with various masses shows that the energy originally stored in magnetic clouds of large mass tends to be distributed equally between the individual particles and the clouds. Under real conditions, an eddy is not necessarily the motion of individual cluster of material as a whole. An eddy may very often be thought of as a			
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L 65059-65

ACCESSION NR: AP5010826

set of weakly interacting collective motions--oscillations of a medium. This applies in particular to the acceleration of particles by a weakly turbulent plasma where excitation of a large number of natural oscillations of small amplitude takes place. Particle acceleration in this model cannot be presented as graphically as in Fermi's model. Since the amplitude of the oscillations is small, the weak interaction between the oscillations themselves and between the oscillations and the plasma particles may be studied by perturbation theory for an exact quantitative solution. A detailed theoretical treatment is given to the case of weak stationary turbulence as the result of a large number of low frequency ($\omega \ll \Omega_H = eH/Mc$) long-wave ($k_z < v_{Tz}/\Omega_H$, $v_{Tz} = \sqrt{T_z/m_i}$) Alfvén oscillations propagated along a nearly non-turbulent magnetic field $H_0 z$ ($k_z \ll k_i$). The fluctuating magnetic and electric fields may then be presented in the form of the sum of the fields of individual oscillations of constant amplitude $\delta H = \sum_k H_k e^{-i\omega_k t + ik_z r} + c.c.$

The acceleration of very fast particles is considered, moving at rates considerably greater than the phase velocities of the Alfvén waves and the thermal velocities of the particles. "The author is grateful to G. M. Zaslavskiy and R. Z. Sagdeyev for

44, 57

44, 55

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L 65059-65 ACCESSION NR: AP5010826	useful remarks and discussion of the work." Orig. art. has 13 formulas. ASSOCIATION: Novosibirskiy gosudarstvennyy universitet (Novosibirsk State Uni- versity)	3
14/55 SUBMITTED: 15Oct64 NO REF SOV: 004	ENCL: 00 OTHER: 002	SUB CODE: ME
jlk Card 3/3		

L 26626-66 EWT(1)/ETC(f)/EPF(n)-2/EWG(m) IJP(c) AT

ACC NR: AP6013916

SOURCE CODE: UR/0207/66/000/002/0007/0013

65

13

AUTHOR: Galeev, A. A. (Novosibirsk)

ORG: none

TITLE: Anisotropic drift instability in a plasma and anomalous transfer processes

SOURCE: Zhurnal prokladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1966, 7-13

TOPIC TAGS: plasma physics, ion, magnetic mirror, flow, plasma magnetic field, plasma instability, inhomogeneous plasma, magnetic trap

ABSTRACT: The author proposes a nonlinear theory for the instability of a weakly non-homogeneous plasma assuming a "cone of losses" in their velocity distribution. Channel type ($k_z \neq 0$) perturbations are considered which may build up even in short traps

with magnetic mirrors when the nonhomogeneity is sufficiently strong. It is shown that the total ion flow across the magnetic mirrors due to turbulent diffusion into the cone of losses exceeds the flow of ions across the magnetic field due to diffusion in the coordinate space n by $(2n/R_H v_n)^{1/2}$ where R_H is the Larmor radius of the ions.

The ion diffusion time in the case of losses is of the order of $\tau = 10\Omega_H^{-1}(2n/R_H v_n)^{1/2}$ where Ω_H is the Larmor frequency. The author thanks R. Z. Sagdeev for his helpful discussions. Orig. art. has: 25 formulas.

SUB CODE: 20/ SUBM DATE: 25Jul65/ ORIG REF: 006/ OTH REF: 004

Card 1/1

ACC NR: AT6015894

SOURCE CODE: UR/0000/66/000/000/0001/0008

AUTHOR: Galeev, A. A.

ORG: Institute of Nuclear Physics, Siberian Department, AN SSSR (Institut yadernoy fiziki Sibirskogo otdeleniya AN SSSR)

TITLE: Anomalous escape of dense plasma from a Probkotron due to the presence of a loss cone

SOURCE: AN SSSR. Sibirskskoye otdeleniye. Institut yadernoy fiziki. Doklady, 1966. Ob anomaliyakh ukhoda plotnoy plazmy iz probkotrona iz-za nalichiya konusa poter', 1-8

TOPIC TAGS: dense plasma, plasma confinement, plasma stability, magnetic mirror

ABSTRACT: The effect of the plasma loss cone, present in the magnetic confinement machines of the Probkotron type, on plasma stability is investigated. The behavior of the ions and electrons in the magnetic field of the Probkotron is discussed in greater detail than has been done previously. The particle distribution function with modifications due to magnetic mirror end losses, as well as the stabilizing effects of the finite length of the plasma, are taken into account. It is shown that a critical length of plasma for stable configuration exists, provided the critical length is smaller than that for "cone instability". This critical length decreases as the one-fourth power of the plasma density. The plasma model developed in this work is used to dis-

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cuss the experimental results of Yu. V. Gott, M. S. Ioffe and Ye. Ye. Yushmanov (Ink-lad C No 21/143 at a conference on plasma physics and research in the field of controlled thermonuclear fusion, KALEm, 6-10 September 1965). Some of the aspects of that experiment can be understood on the basis of the model developed here; however, it is pointed out that some of the presently unknown conditions in the plasma must be ascertained before vigorous agreement between the experimental and theoretical models can be claimed. The author thanks R. Z. Sagdeyev for numerous discussions of the work and for valuable counsel. Orig. art. has: 14 formulas.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 005

Card 2/2 *lll*

ACC NR: AP6036028

SOURCE CODE: UR/0057/66/036/011/1959/1963

AUTHOR: Galeev, A. A.

ORG: none

TITLE: Concerning anomalies in the escape of dense plasma from a magnetic mirror system owing to the presence of the "loss cone"

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 11, 1966, 1959-1963

TOPIC TAGS: plasma stability, plasma decay, inhomogeneous plasma, magnetic mirror machine, magnetic trap

ABSTRACT: The author discusses the instability of a dense plasma in a magnetic mirror system due to the anisotropy of the ion velocity distribution and the presence in that distribution of a "loss cone". The discussion is limited to the case of a short system, whose length is less than $10^4 D(1 + (f/F)^2)^{1/2}$, where D is the Debye radius, f is the electron Langmuir frequency, and F is the ion Larmor frequency. The approximately quantitative portion of the discussion is based on the dispersion equation of E.G.Harris (J. Nucl. Energy, C-2, 138, 1961), as generalized to the case of a non-uniform plasma with different transverse and longitudinal temperatures by V.I.

Pistupnovich and collaborators (Atomnaya energiya, 3, 30, 1963; 14, 72, 1963). The assumption of Maxwell ion velocity distributions is rejected, however, and the author gives more attention to the stabilizing influence of the finite length of the system

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than did Pistupovich et al. From a condition for nonlinear instability previously given by the author (Doklad CNo.21/214 na konferentsii po fizike plazmy i issledovaniyam v oblasti upravlyayemogo termoyadernogo sinteza, Kalem, 6-10 sentyabrya, 1965), there is derived a series of approximate stability conditions on the length of the magnetic mirror system. These are employed to discuss some of the experimental findings of Yu.V.Gott, M.S.Ioffe, and Ye.Ye.Yushmanov (Doklad CNo.21/143 na konferentsii po fizike plazmy i issledovaniyam v oblasti upravlyayemogo termoyadernogo sinteza, Kalem., 1965). The observed rapid decrease of plasma density at densities of the order of $5 \times 10^9 \text{ cm}^{-3}$ is ascribed to the development of an anisotropic instability that leads to rotation of the ion velocity vector. At that density the critical length is about 30 cm; the behavior of the plasma might nevertheless be explained by concentration of the plasma near the center of the trap. The author asserts that the theory presented here can be regarded as a "speculative model" which admits anomalous behavior of the plasma during the decay process. The author thanks R.Z.Sagdeev for many discussions and much valuable advice. Orig. art. has: 14 formulas.

SUB-CODE: 20 SUBM DATE: 26Nov65 ORIG. REF: 006 OTM REF: 005

Card 2/2

ACC NR: AP6033407

SOURCE CODE: UR/0057/66/036/010/1740/1743

AUTHOR: Galeev,A.A.

ORG: none

TITLE: Current-convective (rippling-mode) instability in a plasma in which the ion Larmor radius is large

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 10, 1966, 1740-1743

TOPIC TAGS: nonuniform plasma, plasma stability, magnetohydrodynamics, Larmor radius

ABSTRACT: The author discusses the effect of the finite ion Larmor radius on the rippling-mode (current-convective) and shear-mode instabilities of an inhomogeneous plasma in a magnetic field. The calculation are based on the two-fluid magnetohydrodynamic equations including nonquasiclassical terms due to the resistivity and current gradients. The equations obtained for the rippling-mode oscillations reduce in the limit of zero ion Larmor radius to those of H.P.Furth, J.Killen and M.N.Rosenbluth (Phys.Fluids, 6,459,1963). In the case of large ion Larmor radius, the rippling-mode oscillations are fully stabilized. The unstable solutions found by B.Coppi (Phys. Fluids, 7, 1501,1964) are fictitious because they cannot be spatially localized. When the current gradient is significant there may develop an instability with respect to Alfvén-type oscillations. These oscillations are also stabilized in the case of large

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ACC NR: AP6033407

ion Larmor radius, and in any case they can develop only when the perturbation extends over a considerable region of space. The author thanks R.Z.Sagdeyev for valuable advice and stimulating discussions, and S.S.Moiseyev for valuable discussions. Orig. art. has: 13 formulas.

SUB CODE: 20 SUBM DATE: 220ct65 ORIG,REF: 003 OTH REF: 006

Card 2/2

124-57-2-2452

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 2, p 133 (USSR)

AUTHORS: Galeev, A. F., Szekeli, Ya., Nikolayev, A. M.

TITLE: Determination of the Critical Velocity of the Shaft of a Suspended Pendulum Centrifuge (Opredeleniye kriticheskoy skorosti vala podvesnov mayatnikovoy tsentrifugi)

PERIODICAL: Tr. Kazansk. khim.-tekhnol. in-ta, 1955, Nr 19-20, pp 307-315

ABSTRACT: Bibliographic entry

1. Centrifuges--Equipment 2. Shafts--Velocity

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SOV/124-57-8-8913
Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 8, p 49 (USSR)

AUTHORS: Galeyev, A. F., Kurmanayevskiy, V. V., Gavzhak, Z.

TITLE: Contribution to the Determination of the Velocity of Motion of a Substance Within the Conical Bowl of a Centrifuge (K voprosu opredeleniya skorosti dvizheniya materiala po konicheskому barabantu tsentrifugi)

PERIODICAL: Tr. Kazansk. khim. - tekhnol. in-ta, 1956, Nr 21, pp 195-208

ABSTRACT: Bibliographic entry

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MAKSIMENKO, M.Z.; GALAEV, A.F.; GUR'YANOV, A.I.; ARTUGANOV, I.S.; ABAL'-
SHTEYN, I.Ya.

Investigating certain designs of extraction apparatus in a
lubricant-phenol system. Nefteper. i neftekhim. no.6:41-44
'64. (MIRA 17:9)

1. Novo-Ufimskiy neftepererabatyvayushchiy zavod i Kazanskiy
khimiko-tehnologicheskiy institut.

L 22381-66 EWT(m)/I DJ/WE
ACC NR: AP6007941

(A)

SOURCE CODE: UR/0318/66/000/001/0049/0051

22
B

AUTHOR: Maksimenko, M. Z.; Galevay, A. F.

ORG: Novo Ufimsk Oil Refinery (Novo-Ufimskiy neftepererabatyvayushchiy zavod)

TITLE: Effect of pulsation and vibration on the performance of extraction columns used for phenol purification of oils

SOURCE: Neftepererabotka i neftekhimiya, no. 1, 1966, 49-51

TOPIC TAGS: phenol, fuel refining, petroleum refining, petroleum refinery equipment, petroleum engineering

ABSTRACT: The effect of the frequency of pulsation and vibration on the performance of a pilot plant pulsation packed column and a pilot plant two-segment column (lower part packed and upper part containing vibrating plates) was studied. The phenol extraction of oil was used as a model system. The schemes of the columns used are shown in figure 1. The columns' dimensions were: diameter = 0.5 m, total height = 5.3 m, length of column core = 3.3 m. The load was 15-16 m^3/m^3 for the $a \cdot f = 0$ and $10 \text{ } m^3/m^3$ for $a \cdot f = 0.01$; where a is pulsation or vibration amplitude and f is frequency. The dependence of HETP and of the oil content in extract upon vibration or pulsation frequency is graphed. It was found that the two-segment phenol extraction columns are

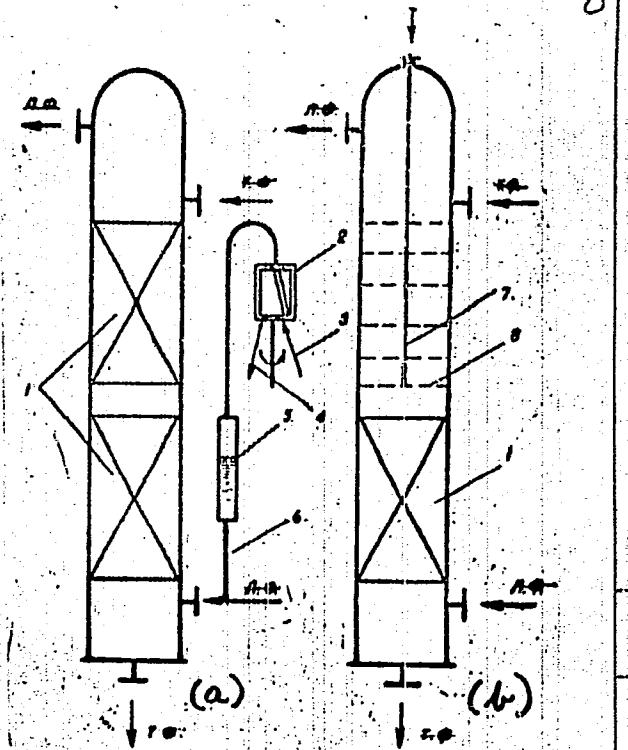
UDC: 665.637.733.023.23 : 532.517.6.001.5

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ACC NR: AP6007941

Fig. 1. a--column with pneumatic pulsation; b--two-segment column; 1--plate; 2--pulsator; 3--air inlet; 4--air outlet; 5--pulsation chamber; 6--pipe; 7--shaft; 8--plates.



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L 22381-f6
ACC NR: AP6007941

more efficient than those in which all liquid is subjected to pulsation. Orig. art.
has: 2 figures, 1 table.

SUB CODE: 07/ SUBM DATE: 00/ ORIG REF: 006/ OTH REF: 001

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